THE WORLD BANK
TERMS OF REFERENCE

OPEN DATA, COMMONS, AND COMMUNITY PLATFORM AND SERVICES

GENERAL DESCRIPTION:

The Ministry of ICT of the Government of Colombia has requested the support of the World Bank to deliver technical assistance to energize the national innovation and collaboration ecosystem and inspire a joint strategy of innovation and open data. This support arrives in the form of 3 pillars: 1) diagnostic and design of the national innovation ecosystem; 2) strategy and policy for open data; and 3) design of a Commons for Colombia.

The objective of this consultancy to design and develop two distinct but connected platforms: an open data portal and a Commons for Colombia digital platform. The open data portal will facilitate publication of and interaction various datasets across levels of government, as well as cultivate a strong Open Data Community in Colombia. The Commons for Colombia platform will serve as a national repository of civic, public, and government software to promote a community of re-users of software in Colombia. The production of these platforms will include discovery, design, prototyping and iteration through an agile methodology built on strategic and rapid code sprints.

This project will initially operate under dual timelines: one for the open data portal (platform delivery within seven weeks of contract signing, followed by months of support and training up until May 30th 2016) and another for the Commons platform (minimum viable product (MVP) delivery in October 2015 and final platform delivery in December 2015, with support and training up until May 30th 2016). It is anticipated that candidate firms will submit proposals that offer cost savings and other benefits by using a unified or interoperable back-end between the two platforms.

A. PROJECT BACKGROUND AND OBJECTIVES

World Bank Group

The World Bank Group (WBG) is comprised of the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the International Centre for Settlement of Investment Disputes (ICSID).

Colombian innovation and open data initiative

Since the establishment of its Online Government Strategy in 2000, Colombia has been committed to developing a more transparent, efficient, and participatory government that delivers services more efficiently and effectively to its citizens. Currently, the Ministry of ICTs (MINTIC) is joining other stakeholders in supporting these objectives and, together with other national entities, is supporting the achievement of an action plan oriented towards generating a more open government aligned with the commitments established through the Open Government Partnership.

MINTIC's commitments, and those of its Online Government Agency, have focused on themes including access to information, open data, communication and complaint mechanisms, news releases using

electronic media, improvement of public services through ICT, and the support of the development of mobile solutions.

At the same time, recognizing the value of collaboration instilled within the government's strategies as well as MINTIC's focus on involving third parties in the generation of government solutions, the Online Government Agency continues to advance strategies that facilitate a model that encourages the participation of a variety of non-governmental actors to support its objectives.

These efforts include the development of a strategy to strengthen the capacity of innovation among State entities which involves an agreement between the United Nations Organization (through the UNDP and UNDESDA) that seeks to build a digital government Center of Innovation that could catalyze the process of collaborative innovation within the government.

To support these efforts, the Ministry of ICT of the Government of Colombia has requested the support of the World Bank to deliver technical assistance to energize the national innovation and collaboration ecosystem and inspire a joint strategy of innovation and open data. This support arrives in the form of 3 pillars: 1) diagnostic and design of the national innovation ecosystem; 2) strategy and policy for open data; and 3) design of a Commons for Colombia.

Open data in Colombia

The Government of Colombia promotes its "Datos Abiertos" initiative since 2012, which is currently reflected in an open data portal[1] that publishes more than 1,000 datasets. In recent years, the initiative has achieved the active involvement in the process of publication, of a significant number of governmental entities (at municipal, regional and national levels), and has created an incipient culture of publication and reuse of open data that is intended to promote. Colombia occupies a relevant position at international rankings of assessment, like Global Open Data Index or the Open Data Barometer -.

The Colombian Government, through its "Gobierno en Linea" strategy, it's aware of the importance in opening and reuse of public data, to boost participation, social control and generation of value added. Therefore, decides to take a step forward at the initiative to improve publication and consumption from the open data infrastructure. It's intended to provide to the initiative an open data platform proven, secure, scalable, compliant with the international standards of publication, and enabling fast deployment non-traumatic between current agents of the open data ecosystem, to ensure the continuity of the initiative, by experiencing a qualitative leap in terms of innovation and social and economic impact.

The Open data initiative is enriched every day on methodological aspects. Currently, is available a set of guidelines for publication of open data, which will be updated incorporating among other issues, an scheme of unique and persistent addressing to facilitate the identification process of datasets, the use of international standards for their descriptions and the implementation of taxonomies for the use of controlled lists of terms at governmental activity or public administration bodies. Therefore, it's expected that the new open data publishing platform it be able to support these new methodological requirements.

[1] http://datos.gov.co

The implementation of open data platform, implies the opportunity to create new spaces for public private partnership, between the Colombian Government and the supplier and its local partner, joining their efforts to promote economic development and social engagement, which will contribute the consolidation and enrichment of the initiative and will result in the mutual benefit of both parties.

Commons for Colombia

The objective of the third pillar, Commons for Colombia, is to develop a platform (and related content and community strategy) that will enable users (both within and outside of government) to find, publish, and share code, knowledge, and experiences for software that addresses civic, public, or government challenges. This "commons" must integrate with existing platforms and initiatives, such as Center for Innovation and the parallel open data pillar of this activity, while also providing new spaces for developers and practitioners to collaborate on and support the re-use of existing software and code. The Commons should serve as a platform for civic software as well as public software (defined by MINTIC as software which is recommended for use by public entities in Colombia).

Objectives of the TOR

The objective of this consultancy to design and develop two distinct but connected platforms: an open data portal and a Commons for Colombia digital platform. The open data portal will facilitate publication of and interaction various datasets across levels of government, as well as cultivate a strong Open Data Community in Colombia. The Commons for Colombia platform will serve as a national repository of civic, public, and government software to promote a community of re-users of software in Colombia. The production of these platforms will include discovery, design, prototyping and iteration through an agile methodology built on strategic and rapid code sprints.

- **SCOPE OF WORK**

This section is divided into two sections: one for open data and another for Commons.

OPEN DATA PLATFORM

General tasks include:

- Provide software services or develop software to enable the easy publication and consumption of Colombian Institutions datasets and applications developed with open datasets as part of its Open Data Initiative.
- Data portal should be capable of automatically harvesting and displaying data from other national or sub-national portals, and host datasets not already separately hosted.
- Arrange for hosting of the portal and the data.
- Provide technical assistance during the migration process from the actual to the new Open Data Platform.
- Provide technical assistance and support at operational stage of the new Open Data Platform until May 30th, 2016 with the option of the World Bank choosing to continue support for another 2 years.
- Provide on-site intensive training sessions on management and tools for the new open data platform, including curation, versioning and quality control for data, and other matters.

- Meet the interoperability considerations of the 'Common language for information exchange. Gobierno en Linea: GEL-XML[2]', designed by MINTIC.
- Meet the security considerations of the MINTIC.
- Promote public-private partnership.
- The selected firm's team should include a project manager who will serve as a point of contact and provide regular weekly updates.

User requirements:

General user requirements, to be refined in feedback sessions with Bank task team and client, are listed below. Significant attention should be paid to responsive and user-centric design.

Specific user requirements include:

- The services should need little (or no) technical intervention for its use by the data publisher teams. The portal should run automatically in its role as a harvester and aggregator of data from other portals.
- Key functionality to include ability to: upload, manage and access data; visualize data using charts, maps and infographics; deliver data to other applications via APIs or other endpoints, and support bulk downloads.
- Data portal should also include / support easy inclusion of applications gallery; links to social media; community functions; news and announcements; blogs; embedded visualizations; requests for data.

Technical requirements:

- See below detailed description of open data portal requirements (ANNEX 1).

Methodology:

- Describe your firm's experience in providing services identified in the scope of work, including links to previously delivered Open Data portals.
- The Proposal should:
    - describe options for technical assistance and support to be provided with corresponding SLAs, including a contact point for telephone calls and emails during the working day (Colombia time).
    - describe how the Overall Requirements will be met. It should also specify if there are any particular limits on extent of scalability. A Proposal should include estimates, with their justification, of necessary ongoing running costs so future sustainability of the proposed solution could be evaluated.
    - describe how the Minimum Requirements will be met. The firm is also invited to specify any additional functionality relevant to improving use of open data in the proposal.
    - describe how the Migration Requirements will be met and include daily rate for such professional services.

[2] http://lenguaje.intranet.gov.co/web/gelxml/inicio

- describe how the Training Requirements will be met. The firm is also invited to specify any additional training module relevant to improving knowledge to foster Open Data ecosystem in the proposal.
- describe how the Technical Assistance Requirements will be met with local resources and include daily rate for such professional services.
- include a suggested initial hosting configuration based on the firm's experience with the launch and initial phases of other data initiatives (including the initial launch "surge"), explain the justification for this configuration, and include cost options based on the applicable parameters. Any additional costs or cost savings specified above should be also included in the proposal.
- specify what skills would be brought for data preparation and upload, and include daily rate for such professional services.
- include a description about how establish a collaboration framework between MinTIC and the firm to promote public-private partnership to foster Open Data ecosystem.

COMMONS FOR COLOMBIA PLATFORM

General tasks include:

- Develop the code (or customize existing code) and manage the site infrastructure for the Commons for Colombia digital platform;
- Gather user, technical, and design requirements for the platform through iterative consultations with stakeholders including Bank task team and MINTIC;
- Provide a cohesive branding and design identity and strategy;
- Provide comprehensive back-end documentation and publish the code under an open source license to enable subsequent third-party modifications;
- Train the administrative users (MINTIC) on the technical and content management of the platform;
- Articulate a service level agreement to ensure clarity on platform uptime expectations, downstream platform updates, and technical support availability.

User Requirements

General user requirements, to be refined in feedback sessions with Bank task team and client, are listed below. Significant attention should be paid to responsive and user-centric design.

Specific user requirements include:

- Facility to upload information about a software or codebase, including metadata such as use cases, links to code repository, logo and multimedia, license information, etc.;
- Facility to rank, rate, and comment on content items;
- Ability to categorize - and review categories of – different types of software such as certified public software, uncertified civic software, etc.;
- Clear links between the Commons site and parallel related initiatives, such as Colombia's open data platform and the MINTIC Center of Innovation repository of public challenges;
- Ability to link any content type (e.g. application, organization, forum, dataset) with any content item;

- Robust blog and forum features;
- Administrative features including user authorization, content moderation, etc.

Technical Requirements

Generally speaking, the platform should be built using open standards, utilizing well-defined APIs with modern tools, frameworks, and visual design approaches. Some specific requirements, to be refined in feedback sessions with the Bank task team and client, are below:

- Cross-browser accessibility, including all major browsers and IE9+;
- Cross-platform accessibility including mobile devices and responsive design;
- Built on an industry standard API (e.g. RESTful) and relevant standards to facilitate third-party interaction with the platform's content;
- The code must be licensed to allow third parties rights to modify, extend and reuse subject at most to the right to attribution (e.g. GPL 3.0);
- Platform will be hosted until May 30th, 2016, beginning at the launch of MVP, by the firm or hosted on local government servers (TBD; if the latter then appropriate technical training should be provided by the firm);
- Platform must achieve minimum security requirements which will be defined based on the technical hosting organization (TBD);
- Fully integrated multilingual (Spanish and English) functionality;
- The firm must develop a robust and efficient ticketing mechanism for the task team and firm to manage the product development process.

Methodology

The firm is expected to embrace industry standard design thinking principles and lean development methodologies. While the firm should be familiar with agile methodologies, it is possible (to be confirmed after initial user/technical requirements gathering) that conventional waterfall approach is better suited to match this project's tight timeline.

The firm is expected to show evidence of research and technical understanding of the Colombian innovation and civic technology ecosystem. Spanish language skills a plus. Firms with interdisciplinary and well-rounded teams (including interaction designers, developers skilled at modern languages and frameworks, etc.) will be preferred.

The firm is expected to be familiar with civic and public software and should participate alongside MINTIC and the Bank task team in an initial content curation and seeding process for the MVP.

The firm should specify the flexible license terms under which the code will be released; common open source licenses are preferable however proprietary solutions are acceptable if accompanied with a strong justification on technical benefits and value for money as long as the government of Colombia and its agents are allowed adequate rights to modify the platform.

Stakeholders with which the firm should engage include:

- MINTIC
- World Bank Task Team

The proposal should include a service-level agreement for support during the hosting period (beginning at launch of MVP until May 30th, 2016). It should also include details of a post-contract SLA, which would be arranged directly between firm and MINTIC, to ensure transparency and to avoid increased, changed, or unexpected SLA terms in the future.

The firm should outline a coherent strategy to develop both the open data and the Commons platforms in coordination to facilitate their technical and content interoperability .

B. DELIVERABLES/SPECIFIC OUTPUTS EXPECTED FROM FIRM

This section is divided into two sections: one for open data and another for Commons.

OPEN DATA PLATFORM

The selected firm will deliver the following outputs:

- Open Data portal for Colombian Government set up, migration and live, and initial data preparation and upload completed.
- Technical training modules in system administration, publication of data, use of the portal, and all related/relevant functionality for Open Data portal delivered.
- Remaining training, related documentation and materials, and source code as applicable delivered.

Estimated timeframe:

Item	Project tasks and deliverables	Estimated Timeframe
1	Discovery and design research with implementation Plan	Week 1 - 2
2	Approvals of platform tuning	Week 3
3	Open Data platform implementation	Week 4 - 7
4	Migrate existing content to new software/site	Week 5 - 6
5	Migrate existing mobile apps to the new API access	Week 4 - 7
6	Technical Assistance	Week 5 - 36
7	Open Data Platform go live	Week 8
8	Training	Week 8 – 12
9	Operational stage	Week 8 – 36
10	Support	Week 8 – 36

COMMONS FOR COLOMBIA

The selected firm will deliver the following outputs:

- MVP work plan (September 30th 2015)

- Commons platform MVP (October 21st 2015)
- Final platform work plan (November 4th 2015)
- Final platform with interoperability between Open Data, Commons and the platform from Centro de Innovación (November 30th 2015)
- Publication of documentation and source code (December 31st 2015)

Estimated Timeframe
The estimated schedule for implementation is 4 months.
Technical support will be ensured until May 30th, 2016.

C. SPECIFIC INPUTS TO BE PRESENTED BY THE CLIENT

MINTIC will provide, through feedback shared via the Bank task team, guidance including:

- Suggestions/resources for seed content;
- Guidance on technical hosting/transition processes;
- Background about and, if relevant, technical access to the Center of Innovation's repository of public challenges;
- Background about and, if relevant, technical access to the current Open Data Platform;
- Design and general feedback, shared via the Bank task team.

D. SPECIAL TERMS & CONDITIONS / SPECIFIC CRITERIA
Duration of Assignment
The expected start date of start date of the contract is September 30th 2015, and the contract end date is May 30th 2016.

Reporting
The selected firm will report to Samhir Vasdev, Jean Barroca, and Carlos de la Fuente (GTIDR), depending on the specific activity stream (open data or commons). Reporting and clearance lines will be clearly defined with the selected firm to ensure efficient and transparent progress.

Payment Schedule
The assignment will be remunerated on a lump sum basis as per the norms and procedures of the World Bank. Payment will be linked to the following deliverables, detailed in the scope of work, after being accepted by the World Bank to its satisfaction:

- Signing of contract: 10% of contract value;
- Delivery of final platforms (open data and commons) and publication of code and documentation: 50% of contract value;
- Delivery of on-site training modules and materials: 20% of contract value;
- Completion of system support period with successful rectification of any faults: 20% of contract value;

Required Firm Qualifications and Experiences
- Agile and lean software development practices;
- Extensive professional experience developing national-level digital infrastructure and content;

- Extensive professional experience working with international organizations, development communities, and governments at local/national level;
- Complete technical proficiency in contemporary languages and frameworks relevant to this assignment;
- Diverse and interdisciplinary team including UX/UI designers, developers, and project managers familiar with modern project management and ticketing tools (e.g. Slack);
- Open source and OS community experience is a plus;
- Technical team must have professional level of proficiency in Spanish.
- At least 3 years' experience required in establishing Open Data portals or similar systems and associated training programs for both members of government and civil society.
- Project management, trainers, telephone/email contact, and other client-facing staff required to have fluent Spanish.
- Knowledge of local Open Data community and ecosystem, including policies, political economies and context, etc. in Colombia desirable.

Potential Downstream Work

There is a possibility of downstream work based on performance, available resources, and need.

ANNEX 1: DETAILED DESCRIPTION OF OPEN DATA PORTAL REQUIREMENTS

1. Overall Requirements

- The Software should be developed or served in a way that needs little (or no) technical intervention for its use by the publishers teams at Colombian entities;
- Solution must be simple, understandable and actionable for publishers and consumers.
- The portal and hosting should be easy to maintain by the technical staff concerned and with the skills that they have or could easily acquire locally.
- The portal must enable access to both datasets and applications developed with open datasets.
- Ability to support multiple domains and sub-domains and also provide microsites features to provide branded sites to several independent entities.
- Have built-in APIs that provides access and a query language for every dataset.
- Have customizable APIs that provides access to data sourced within governmental information systems (supporting GEL-XML).
- Support multilingual content and data
- Support tabular (numerical and alphanumerical), and geo-referenced data
- Support last versions of all major web browsers, including support on mobile devices
- Solution needs to be scalable upwards to accommodate individual datasets up to 50 GB and available for storage 2,000 datasets during first year.

2. Minimum Requirements

2.1. Publishing/Data and applications Upload

- Support publishing/data upload of structured data:
    - From a variety of formats: Comma-separated values (CSV), eXtensible Markup Language (XML), images files (DXF, DWG, IFF, JPG, LAS...), geographical data (GDE, Shapefile –SHP-, ECW, GEOTIFF, XYZ…), Hyper Text Markup Language (HTML), JavaScript Object Notation (JSON), Microsoft Office (DOC, DOCX, XLS, XLSX…), Open Office (ODT), Really Simple Syndication (RSS), Resource Description Framework (RDF), among others.
    - Ability to add, modify and delete data and applications developed by re-users
    - Ability to stage data before publishing
    - Ability to datasets addition and updates (also metadata) via API (for data publishers)
    - Ability to pull data from external APIs and publish/blend with existing data
- Support storage, publishing and consumption of RDF data-hosting and SPARQL endpoint.
- Types of data to be supported by the software are, among others: Data sourced from Freedom Information Act, Government budget and expenditure data, Government purchase data, Statistical data, Educational data, Heath data, Tourism and cultural data, Company register, Transport, Geospatial, Weather, Crime, Agriculture, Environment and water, Trade, industry and labor, Law and election.

- And, in general, all kind of data demanded by businesses, media, universities and students and civil society that are collected, transmitted, exchanged, transformed, analyzed and presented by Government of Colombia for use within internal agencies and also externally. The platform should be agnostic to the content of the data.
- Enable federation services that allow data publishing entities (national, state, or municipal level) to share their data with others by exposing and/or federating their respective metadata catalogs.
- Publish via API and other endpoints (SPARQL) to be accessible via 3rd party apps, mobile devices, etc.
- Customizable workflow around publishing; enable decentralized approach to publishing data; workflow should only allow publishing of contents based on profiling users attributes.
- Under customizable workflow, an ability for more than one user to review and approve a dataset before publishing.
- Ability to create new datasets manually
- Access control feature to enable data elements within a dataset or related visualization to be surfaced externally or maintained privately; for example, some dataset owners may make certain data elements accessible (viewable) for internal users of entities, but may restrict these views for external users
- Support automated publishing/updates (by fetching files from a pre-determined location/url) to datasets

2.2. Pre-processing of datasets before Upload

- Ability to support ETL workflows:
    - Filtering, grouping, naming, among others features.
    - Support for Source formats: GEL-XML (backoffice web services outputs), RDBMS (Oracle, SQL Server), …
    - Target formats: CSV, Atom XML, GeoRSS XML, KML, SHAPE, …
    - Access mode: Push, Pull.
- Ability to tag data with the correct data type (e.g. date, text, number, location, currency)
- Ability to customize formatting of headers and data
- Ability to semantic data modeling (linked data).
- Support easy to use, manual upload of data and metadata

2.3. Metadata of Datasets

- Dublin Core / DCAT support for publishing metadata
- Data catalog must be identified by a unique and persistent URI.
- Each dataset must be identified by a unique and persistent URI. The platform should have the flexibility to use an URI scheme defined by the Colombian Government.
- Custom metadata fields.
- Strong search across datasets, data, metadata (see user features section)

- Number of characters allowed for metadata should be large enough; should also allow urls (links) to other documents.
- Metadata management features with ability to delegate administration to levels below for decentralized dataset listings.

2.4. Administration/Analytics

- Permission systems and control access based on trusted profiles for several levels within the Colombian entities for managing of datasets and metadata (publisher, reviewer or administrator at municipal, regional or national levels).
- Users should have individual credentials (and not share credentials with others). It should be possible for system administrators to revoke individual user's credentials quickly and easily. It should be possible to delegate the authority to create users to lead users in individual institutions.
- Role-based access control should also be applied for rights to create other content on the portal.
- Easy access to registered users; provide distribution lists to facilitate communication.
- Ability to set different levels of moderation around suggestions and comments (on dataset, visualization, filtered view, and cells within datasets)
- Ability to set alerts to all/specific data owners, site administrators and overall administrator when comments are posted
- Comprehensive data analytics around website, content, embeds and API; how traffic/consumption/participation is measured, viewed, sliced, rolled up
- Analytics that identify which dataset elements are most popular (e.g. what values are users filtering/visualizing on)
- Ability to audit-track data

2.5. View or display (Web page) Management

- Allow user interface customization; easy to incorporate content such as text, images, embeds, videos, social media feeds, visualizations, filters, maps; embed external widgets from other sources including external sites.
- All dialog boxes and custom messages to users on platform interface must be localized (Spanish), including back-end interfaces.
- Ability to build dynamic pages by applying a common logic and template to multiple pages based on data queries.
- The portal must be indexed by main search engines (Google, Bing, Yahoo, …)

2.6. End User Features

- Dataset, filtered views, visualization, maps are downloadable in diverse formats (Excel, CSV, XML, JSON, PDF, KML)

- Ability to download entire catalog description including all datasets (DCAT specification) in RDF-XML format.
- Ability to download each dataset description (DCAT specification) in RDF-XML format.
- User-friendly tools that enable grouping, pivot tables and creation of filtered views.
- On-site data preview: support diverse visualization options: variety of charts/graphs, timeline graphs, maps; customization around colors and formatting, including axis and conditional formatting.
- Allow creation of calculated fields
- Ability to combine data from multiple datasets into one filter/visualization
- Follow mapping standards that enable mapping with location names, not just longitude and latitude coordinates.
- Support strong 'faceted' search and full-text search across datasets, data and metadata, filtering and sorting of results.
- Allow users to save their work on the site, embed in blogs and other sites and 'follow' other users
- Geographic searching (search for data in a defined geographic area).

2.7. Explicit Social and Community Features

- Integration with social media (sharing, commenting); easy to use prominent social features.
- Community features around datasets, with ability to share/post to social media sites; offer integration with blogging and discussion forums.
- Collaboration features that enable users to build on each others' work.
- Enable new data suggestions from community, also complaints and claims.
- Enable rating and discussions; commenting on the data, on filtered views, visualizations, and maps.
- Enable users to easily embed filtered views, visualizations, maps into external websites, blogs, etc.
- Enable users to follow the activities of other users and collaborate; subscribe to content; enable community activity and follow up scheduled events about Open Data.

2.8. API

- Offer APIs for each dataset without technical intervention by the publishers team
- API Access in multiple formats (CSV, XML, JSON)
- Unlimited open, standards-based API that automatically provides RESTful access and an expressive query language for every dataset.
- Millions API calls per month.
- Enable to create, deploy and managing easily, extending data sourced from governmental information systems (supporting GEL-XML), several customized API from any data source by internal IT programmers, IT teams from other entities, or external developer communities.
- Enable owner to customize XML over and above what is available via API

- Enable to dynamic creation of API featuring documentation, client code libraries and an interactive test console for each API, to help developers discover, explore and start using APIs right away.
- Capabilities for IT administrators to control fine-grained API access and security, manage application tokens, and allocate API resources in real-time.
- API analytics to monitor trends and application usage patterns in real-time.
- Support SPARQL endpoint.

2.9. Integration / Branding

- Flexibility to integrate or embed the data catalog with other websites, add additional pages, layouts, color schemes, logos, etc.
- Custom branding and theming
- Custom home pages and landing pages
- A web widget that allows government agencies to embed live data, maps and charts on their agency websites.
- Ability to support multiple domains and sub-domains
- Enable administrators to brand and embed widgets
- Integrates with external content management system
- Extensibility: add additional or custom features via modules

3. Migration

- Enable technical assistance and 50 hours (estimated workload) to migrate actual datasets (<1.300 datasets) from the old OGDI platform to the new. Colombian Government provides access to old OGDI platform.
- Enable technical assistance and 500 hours (estimated workload) to migrate 27 mobile apps (iOS, Android) developed by re-users that now use OGDI API -calls embedded within apps code-, to the API access over the new platform. Colombian Government provides source code.

4. Hosting

- Preference for cloud hosting, which can be transferred at a later stage to the management of countries.
- Solution needs to be scalable upwards to accommodate individual datasets up to 50 GB and available for storage 2,000 datasets during first year.
- The hosting capacity should be scalable to accommodate future portals for other national entities or to accommodate more datasets, and any additional costs of doing so should be detailed in the proposal.

- The capacity in terms of number of simultaneous users, bandwidth, and data downloads should also be scalable, both up and down, in the light of experience, and the costs (and savings) from doing so should be detailed in the proposal.
- The portal should be available with at least 99.5% uptime, and the architecture should allow upgrading to a fully resilient configuration, with the costs of doing so detailed in the proposal.
- The hosting should include backup and disaster recovery procedures and capacity and specifications for the hosting environment including operating system, database, web server, and CGI scripting.
- The hosting architecture and site(s) should have sufficiently good internet connectivity paths to users in Colombia, using dual hosting or content distribution networks as needed, to allow the portal to be easily used and to allow data to be downloaded in a reasonable time limited by the speed of the individual's own connection to the local internet.
- The hosting contract for the portal should be easily transferable to the World Bank, or a third-party of the World Bank, and to the Governments of Colombia or a regional manager at a specified time.
- Final hosting arrangements will be agreed on between the World Bank and the selected firm based on a received proposal, Colombian Government preferences, and other factors.

5. Security Considerations

- While the government data on the portal will be a priori open data and therefore there is no confidentiality requirement, the portal may also store information about its users that needs to be protected for privacy reasons.
- The portal should ensure the integrity of open data, for instance against attacks aimed at substituting a modified dataset for the original.

6. Training

- The strategy to be followed by the Colombian Government to disseminate knowledge and technical skills about the new platform will be based on the provision of a technical team (10-15 members) to act as focal points for public entities. The provider must provide enough human resources to meet the need for training of trainers on-site in the following areas of knowledge. A package of training, targeted at technical personnel including staff of MINTIC, should include:
    - First module. System administration:
        - Maintenance and system administration of the Open Data portal
        - Open source code customization
        - User administration
        - Management and usage information
        - Portal and microsites customization.
        - Security

- Second module: Publication of data
  - Publishing of datasets
  - Data wrangling, data cleaning, and troubleshooting techniques
  - Using metadata functions available
  - Handling data requests
  - Provision of documentation, online help pages, and other content.
  - In order to provide an opportunity for trainees to practice and consolidate their skills, this training module should include assisting the trainees each to upload datasets themselves, with a total of at least 20 datasets.

- Third module: Use of the portal
  - Discovery/search for datasets
  - Use of various geospatial features
  - Creation of visualizations using available tools
  - Use of APIs
  - Downloading of data

- Any other relevant training the provider may wish to specify.
- The training should include contents to develop skills and capacity building to transmit to all participant entities, the value of open data re-use, the need to develop a strong community of data re-users and collaboration among government entities to strengthen the initiative.
- The provider will develop all relevant training materials adapted to the local context (language included) that can subsequently be re-used by the government.
- In order to minimize travel costs of both trainers and trainees, the provider should also specify how training might be delivered electronically through videoconference, prerecorded video, computer-based training, or other similar methods where appropriate.
- Due to possible turnover among technical support staff and among dataset owners and due to the need to determine, in due course, ongoing management responsibilities for the portal, the provider should also specify how they would offer training in an ongoing fashion through training manuals, guidance manuals, "how-to" guides, online training videos, help pages, electronic slide presentations, or other similar documentation with the data standards for current and future portals needed to ensure compatibility of regional and country data portals, and/or other similar methods.

7. Technical assistance

- The Colombian Government requires qualified technical assistance in order to successfully operate the platform until May 30th, 2015. The provider will propose qualified personnel to meet the following professional profiles:
  - Functional Leader (1 person): a Data Solutions Engineer, whose mission will be to guide the strategy to implement and operate the platform. Estimated workload: 9 months.

- Functional Analyst (2 people), whose mission will be carry out the capacity building and training process. Estimated workload: 9 months.
- Data Analyst Expert (1 person), whose mission will be data curation and quality control before data upload to platform. Estimated workload: 9 months.
- Mobile and Web developer (1 person), whose mission will be migrate mobile apps. (View migration requirements).

- The provider must have a local partner to provide candidates to fill these professional profiles.

8. Support

- Once Colombian Open Data portal is launched, the provider's support services will include:
  - Support tasks should be performed locally.
  - System support and administration for a minimum of 9 months.
  - Availability of initial service on best endeavors basis with greater than 99.5 % availability. The firm should indicate how the requested portals could be enhanced to provide higher levels of availability and costs of doing so.
  - Options for technical assistance and support to be provided with corresponding SLAs, including a contact point for telephone calls and emails during the working day (Colombia time).
  - Proactive monitoring of correct portal and hosting function and security, and taking any necessary corrective action.
  - Rectification of faults in the portal or associated support materials for a minimum of 9 months.
  - Backup and disaster recovery.
  - Permanent access to Community portal and knowledge base, if exists.

9. Public-Private Partnership

- It's desirable that the provider, across local partners, enables sponsorship the Open Data Colombian Initiative. The provider will be promoting their products and providing support. The Colombian government will be fostering their user communities and Open Data ecosystem. The provider must make a proposal about that.